

# Notice of Allowability

Application No.

10/705,746

Examiner

William B. Perkey

Applicant(s)

NEGISHI ET AL.

Art Unit

2851



## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 01-26-04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_



William B. Perkey  
Primary Examiner  
Art Unit: 2851

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Catherine Voorhees on July 22, 2004.

The application has been amended as follows:

In paragraph 0001 line 1 of the specification, the phrase "a continuation" has been deleted and - - related to and claims priority of - - has been inserted.

In claim 1 line 3, the word "a" has been deleted and - - at least one - - has been inserted.

In claim 1 line 5, the phrase - - at least one - - has been inserted before the phrase "diaphragm blade".

In claim 1 line 12 the phrase "said diaphragm blades" has been changed to - - said at least one diaphragm blade - - .

In claim 2 line 1, the phrase "wherein two sheets of said diaphragm" has been deleted.

Lines 2 and 3 of claim 2 have been deleted and the phrase - - wherein said at least one diaphragm blade includes a first diaphragm blade and a second diaphragm blade, and wherein said first and second diaphragm blades are sheets provided in a stacked state, and the optical filter formed in said thin film is disposed between said first and second diaphragm blades. - - has been inserted.

Art Unit: 2851

In claim 8 line 3, claim 19 line 3 and claim 20 line 3, the phrase - - at least one - - has been inserted before the phrase “diaphragm blade”.

### ***Drawings***

2. Figures 4a, 4b, 5a and 5b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action. The objection to the drawings will not be held in abeyance.

### **REASONS FOR ALLOWANCE**

3. The following is an examiner’s statement of reasons for allowance: The primary reason for allowance of claims 1-20 is the claim 1 limitation for at least one diaphragm blade adjusting the aperture of the diaphragm and sliding along the board face wherein the optical filter is formed in a thin film and provide slidably along said at least one diaphragm blade.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Art Unit: 2851

### **Telephone Numbers**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William B. Perkey whose telephone number is (571) 272-2126. The examiner can normally be reached on Monday-Thursday 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William B. Perkey  
Primary Examiner  
Art Unit 2851

WBP:wbp

# Examiner's Amendment

## DESCRIPTION

### DIAPHRAGM DEVICE

#### Cross Reference to the Application

QHP [0001] This application is <sup>related to and claims priority</sup> ~~a continuation~~ of PCT/JP03/06753, filed May 29, 2003.

#### Technical Field

[0002] The present invention relates to an optical diaphragm device in which an optical filter such as an infrared cutoff filter or the like is installed insertably into and retractably from a light path, and in particular, relates to a diaphragm device to be assembled to a photographic device such as a CCTV (monitor camera system) lens or the like.

#### Background Art

[0003] A day and night monitor camera system which by day takes color photographs by focusing light in visible light region and at night takes monochrome photographs by focusing light in near-infrared light region in addition to that in the visible light region on an image picking device (CCD, CMOS or the like) of a camera body so that an monitored image is projected on a TV monitor has been known (for instance, refer to Patent Document 1).

[0004] In the daytime, this system photographs in color using light in the visible light region alone by placing an infrared cutoff filter in front of an image pickup device (inside a camera body or a lens tube), and photographs in monochrome using light in both the infrared and visible light regions by withdrawing the filter from the front of the image pickup device at night.

# Examiner's Amendment

## CLAIMS:

1. A diaphragm device, comprising:

*amb* a diaphragm board having an aperture forming a light path;  
*at least one*  
a diaphragm blade disposed on one face of the diaphragm board, and adjusting the aperture of the diaphragm for the light path by sliding along the board face;

*amb* a diaphragm driving device driving *at least one*  
the diaphragm blade to adjust the aperture of the diaphragm for the light path;

an optical filter having transmission characteristics in accordance with a wave length; and

a filter driving device to insert the optical filter into and retract it from the light path,

wherein said optical filter is formed in a thin film, disposed on one face side of said diaphragm board, and provided slidably along said diaphragm blades.  
*at least one*

2. The diaphragm device according to claim 1, ~~wherein two sheets of said diaphragm blades are provided in a stacked state to each other, and the optical filter formed in said thin film is disposed between those two sheets of the diaphragm blades~~ *wherein said*

*amb* at least one diaphragm blade includes a first diaphragm blade and a second diaphragm blade, and wherein said first and second diaphragm blades are sheets provided in a stacked state, and the optical filter formed in said thin film is disposed between said first and second diaphragm blades.

3. The diaphragm device according to claim 1, wherein said optical filter is an infrared cutoff filter blocking light in the infrared region, and formed in a thin film of 0.25 mm or less in thickness.

4. The diaphragm device according to claim 1, wherein said optical filter is pivotably supported by a shaft provided at one end portion of the diaphragm board, and is inserted into and retracted from the light path by being pivoted around the shaft.

# Examiner's Amendment

5. The diaphragm device according to claim 1, wherein both said diaphragm driving device and filter driving device are disposed on the same side of said light path on said diaphragm board.

6. The diaphragm device according to claim 1, wherein said filter driving device is provided with a filter holding device holding the optical filter at a first position magnetically when said optical filter is at the first position side rather than at a middle position of the first position in the light path and a second position departing from the light path, holding the optical filter at the second position magnetically when the optical filter is at the second position side rather than at said middle position.

7. The diaphragm device according to claim 6, wherein said filter holding device comprises:

a permanent magnet provided on a rotor of the motor driving said optical filter;  
and

a magnetic piece disposed at a position in equal distance from mutually adjacent north and south poles of said permanent magnet, when said optical filter is driven toward the middle of the path between said first and second positions, generating force of attraction between the magnetic piece and either said north pole or said south pole, thereby causing the rotor to pivot.

8. The diaphragm device according to claim 1, wherein an ND filter being different from said optical filter is provided in a transmitting hole forming a diaphragm aperture of said diaphragm blade, and this ND filter includes spectroscopic transmittance

gms

at least one  
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# Examiner's Amendment

path, holding the optical filter at the second position magnetically when the optical filter is at the second position side rather than at said middle position.

19. The diaphragm device according to claim 2, wherein an ND filter being different from said optical filter is provided in a transmitting hole forming a diaphragm aperture of <sup>at least one</sup> said diaphragm blade, and this ND filter includes spectroscopic transmittance characteristics in which the transmittance in the infrared region is substantially equal to that in the visible light region.

20. The diaphragm device according to claim 3, wherein an ND filter being different from said optical filter is provided in a transmitting hole forming a diaphragm aperture of <sup>at least one</sup> said diaphragm blade, and this ND filter includes spectroscopic transmittance characteristics in which the transmittance in the infrared region is substantially equal to that in the visible light region.